

# Matteo Vincenzo Rocco

Curriculum Vitae – Scientific and Professional activities (last update: 2 Feb 2026)

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## 1. PERSONAL INFORMATION

Surname, Name: **Rocco, Matteo Vincenzo**  
Born: **03-08-1986, Legnano (MI), Italy**  
Home address: **Via Verga 7, Rescaldina (MI), Italy**  
Mobile: **+39 340 1235396**  
e-mail (personal): **rocco.matteo86@gmail.com**

## 2. EDUCATION

### 2.1. ACADEMIC QUALIFICATIONS

March 2015 **Doctoral Degree in Energy and Nuclear Science and Technology (STEN)**  
Department of Energy, Politecnico di Milano  
Thesis title: *Primary Exergy Cost of Goods and Services – An Input-Output approach*  
Supervisor: Prof. Emanuela Colombo  
Description: the thesis introduces and formalizes a methodology for the quantification of primary non-renewable resources consumption of goods and services production based on Exergy Analysis and Input-Output Analysis.

December 2011 **Master of Science in Energy Engineering**  
Politecnico di Milano, score 104/110  
Thesis title: *L'exergia come strumento per l'analisi dei sistemi*  
Supervisor: Prof. Emanuela Colombo  
Description: the thesis reviews the most relevant advanced exergy-based methods for system analysis and provides a novel and comprehensive formalization of the Extended Exergy Accounting.

September 2008 **Bachelor of Science in Energy Engineering**  
Politecnico di Milano, score 99/110  
Thesis title: *Riscaldamento Globale: la componente antropica*  
Supervisor: Prof. Ernesto Pedrocchi

### 2.2. OTHER QUALIFICATIONS

October 2018 **National Academic Qualification as Full Professor**  
Abilitazione Scientifica Nazionale (ASN) valida per funzioni di Professore di Prima Fascia nel Settore Concorsuale 09/C2 (Fisica Tecnica e Ingegneria Nucleare)  
Validity: from 19-12-2023 to 19-12-2035

October 2018 **National Academic Qualification as Associate Professor**  
Abilitazione Scientifica Nazionale (ASN) valida per funzioni di Professore di Seconda Fascia nel Settore Concorsuale 09/C2 (Fisica Tecnica e Ingegneria Nucleare)  
Validity: from 08-10-2018 to 08-10-2024

March 2016 **Qualification to practice Engineering profession**

### 2.3. COURSES AND CERTIFICATIONS

- September 2016      **Computable General Equilibrium (CGE) Models for Environmental Assessment**  
Center for Research on Energy and Environmental Economics and Policy (IEFE)  
Bocconi University, Milan (Italy), 26-29 September 2016  
Topics: applications of Macroeconomic models for the evaluation of the primary energy requirements and environmental impact of new policies and products
- October 2016      **GaBi Advanced Training**  
Course organized by *Thinkstep* ([www.thinkstep.com](http://www.thinkstep.com)), Ravenna, 24-27 October 2016  
Topics: Introduction to sustainability and LCA; GaBi software jump start, intermediate and advanced use
- July 2012      **Scuola di Calcolo Scientifico con Matlab**  
Università degli Studi di Palermo, 23 July – 7 August 2012  
Topics: scientific programming, parallel computing and toolboxes
- June 2011      **Summer School of Thermodynamics**  
University of Roma “La Sapienza”, Anzio, June 24 – July 26, 2011  
Topics: Thermodynamics methodologies, Heat transfer and Thermoeconomics

## 3. ACADEMIC AND PROFESSIONAL CAREER

### 3.1. CURRENT POSITION

- Nov 2022 – Present      **Associate Professor** (Professore Associato, area 09/C2 Fisica Tecnica e Ingegneria Nucleare, Settore Scientifico Disciplinare ING/IND-10 Fisica Tecnica Industriale).  
Department of Energy, Politecnico di Milano, Via Lambruschini 4 – 20156, Milano, Italy

### 3.2. PREVIOUS POSITIONS

- Nov 2019 – Nov 2022      **Assistant Professor with Tenure Track** (*Ricercatore a Tempo Determinato tipologia “Senior”, RTD-B*)  
Department of Energy, Politecnico di Milano, Via Lambruschini 4 – 20156, Milano, Italy  
Research title: *“Sviluppo ed applicazione di modelli energetici integrati e multiscala per la valutazione dell’efficienza e dell’uso di risorse primarie di processi produttivi”*.  
Activities: serving as Senior Researcher and Assistant Professor in a group composed by 7 PhD candidates and 4 research fellows, focusing on the development of multi-layer, integrated models for the assessment of impact of productive systems and energy policies
- Jan 2017 – Nov 2019      **Assistant Professor** (*Ricercatore a Tempo Determinato tipologia “Junior”, RTD-A*)  
Department of Energy, Politecnico di Milano, Via Lambruschini 4 – 20156, Milano, Italy  
Research title: *“Modelli di analisi exergetiche avanzate e Life Cycle nella valutazione dell’efficienza nell’uso delle risorse primarie per la produzione di beni e servizi”*  
Activities: serving as Senior Researcher in a group composed by 3 PhD candidates and 2 research fellows, focusing on the development of multi-layer, integrated models for the assessment of impact of productive systems and energy policies

Oct 2018 – Dec 2020	<p><b>Associate Researcher</b>  Fondazione Eni Enrico Mattei (FEEM), Corso Magenta 63 – 20123, Milan, Italy  Research program: “Africa Research, Empowerment, Partnership (Africa-REP)”  Activity: supporting as Senior Researcher the activity of a team composed by 2 PhD candidates and 1 project manager, focusing on the joint application of supply chain engineering, energy and Input-Output models for policy advising in Africa</p>
Jan 2015 – Dec 2016	<p><b>Postdoctoral Fellow</b>  Department of Energy, Politecnico di Milano, Via Lambruschini 4 – 20156, Milano, Italy  Research program: “Analisi exergetiche avanzate e analisi economiche per la valutazione del consumo primario di risorse naturali per la produzione di beni e servizi”  Activities: development and applications of Thermodynamic-based Life Cycle Methods to account for primary energy-resources embodied in goods and services.</p>
Jan – Apr 2013	<p><b>Visiting Researcher</b>  Centre for Energy Resources and Consumption (CIRCE)  University of Zaragoza, Campus Río Ebro. Mariano E. Gómez 15, Zaragoza (Spain)  Supervisor: Prof. Antonio Valero  Activities: development of an Exergy-based Input-Output methodology to quantify the resources embodied in human labor</p>
Jan 2012 – Mar 2015	<p><b>PhD Candidate</b>  Department of Energy, Politecnico di Milano, Via Lambruschini 4 – 20156, Milano, Italy  Supervisor: Prof. Emanuela Colombo  Research activities: development and application of advanced Exergy-based methods for energy system analysis</p>
Mar – Nov 2011	<p><b>CFD analyst</b>  Internship at Ansaldo Caldaie S.p.A., Largo Buffoni 3, Gallarate (VA)  Supervisor: Eng. Giani Thomas (Ansaldo Caldaie S.p.A.)  Activities: Computational Fluid Dynamics (CFD) analysis of an airfoil applied on a 660 MW steam generator operating in Abu Qir (Egypt)</p>

### 3.3. AFFILIATION TO RESEARCH GROUPS / ASSOCIATIONS / COMMITTEES

Nov 2018 – Present	Member of the “ <b>Osservatorio per l’economia circolare e la transizione energetica</b> ” Assessorato Ambiente e Clima di Regione Lombardia
May 2018 – Present	Member of the “ <b>OSeMOSYS Steering Committee</b> ” KTH Royal Institute of Technology in Stockholm Brinellvägen 8, 114 28 Stockholm, Sweden Activity: development of the OSeMOSYS energy modelling framework
2017 – Present	Member of the “ <b>Exergy-Economics network</b> ” ( <a href="http://www.exergyeconomics.wordpress.com">www.exergyeconomics.wordpress.com</a> )
2016 – Present	Member of the “ <b>International Input-Output Association</b> ” (IIOA, <a href="http://www.iioa.org">www.iioa.org</a> )
2016 – Present	Member of the “ <b>International Electrotechnical Committee</b> ” (IEC, <a href="https://www.iec.ch/">https://www.iec.ch/</a> ) Technical Committee 105 – Fuel Cell Technologies

#### Working Group 14 (WG14) – Life Cycle Assessment

##### Activities:

- Development of Standards for assessing fuel cell environmental performances:
  - *IEC 62282-9-101* – Streamlined life cycle considered environmental performance characterization of stationary fuel cell power systems for residential applications
  - *IEC 62282-9-102* – Product category rules for environmental product declarations of stationary fuel cell power systems and alternative systems for residential applications
- Organization of WG14 meeting in Milan, 5-8 August 2019

2013 – Present

Member of the “**Rete Italiana LCA**” ([www.reteitalianalca.it](http://www.reteitalianalca.it))

Involved in the research activities of the work group: *Development and Improvement of LCA methodology: Research and Exchange of experiences* (DIRE), Supervisors: Dr. Grazia Barberio (ENEA), Prof. Lucia Rigamonti (Politecnico di Milano).

## 4. HONORS AND AWARDS

June 2019

### **Wassily Leontief Memorial Prize**

International Input-Output Association (IIOA)

Received for the best paper presented at the 27th International Input-Output Association (IIOA) Conference, 30<sup>th</sup> June to 5<sup>th</sup> July 2019, Glasgow, Scotland.

Selected paper: Rocco M V. *Integrating Energy and Economy models based on the Dynamic Input-Output framework*. In conference electronic proceedings

Prize: 1,000 \$

October 2017

### **Individual basic research activity funding**

Agenzia nazionale di valutazione del sistema universitario e della ricerca (ANVUR)

Prize: 3,000 €

Oct 2016 – Dec 2017

### **Certificate of Outstanding Contribution in Reviewing**

Awarded by the Elsevier’s journals:

- Energy Strategy Reviews (ISSN 2211467X)
- Journal of Cleaner Production (ISSN 09596526)
- Applied Energy (ISSN 03062619)
- Applied Thermal Engineering (ISSN 13594311)
- Energy Conversion and Management (ISSN 01968904)

June 2016

### **Premio Giovani Ricercatori LCA 2016**

Awarded by the “Rete Italiana LCA” for the best paper presented at the scientific

congress: “V Convegno dell’Associazione Rete Italiana LCA”, Jun 23-24, 2016, Ravenna

Selected paper: Rocco M V. *Accounting for human labour in LCA: a novel Input-Output approach*. In Atti del X Convegno della Rete Italiana LCA 2016 Life Cycle Thinking,

sostenibilità ed economia circolare. ISBN: 978-88-8286-333-3.

Ravenna (Italy), 23-24 June 2016.

Prize: 500 €, free participation to the “GaBi Advanced Training”, Ravenna, 24-27 Oct 2016

## 5. ACADEMIC ACTIVITY

### 5.1. MSc, BSc COURSES

A.Y. 2024-2025

#### Teaching Professor

“Energy Accounting and Impact Assessment Methods”, SSD: ING/IND-10, code 057905

Lectures, Hands on sessions and Project work development

CFU: 8; Registered students: 84; Course score: 3.2/4

MSc in Energy engineering, Politecnico di Milano

#### Teaching Professor

Course: “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket A-Ci

Lectures and Hands on sessions

CFU: 5; Registered students: 276; Course score: 3.1/4

BSc in Management engineering, Politecnico di Milano

#### Teaching Professor

Course: “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket H-Pi

Lectures and Hands on sessions

CFU: 5; Registered students: 292; Course score: 3.2/4

BSc in Management engineering, Politecnico di Milano

A.Y. 2023-2024

#### Teaching Professor

“Energy Accounting and Impact Assessment Methods”, SSD: ING/IND-10, code 057905

Lectures, Hands on sessions and Project work development

CFU: 8; Registered students: 87; Course score: 3.4/4

MSc in Energy engineering, Politecnico di Milano

#### Teaching Professor

“Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket A-Ci

Lectures and Hands on sessions

CFU: 5; Registered students: 261; Course score: 3.0/4

BSc in Management engineering, Politecnico di Milano

#### Teaching Professor

“Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket H-Pi

Lectures and Hands on sessions

CFU: 5; Registered students: 282; Course score: 3.0/4

BSc in Management engineering, Politecnico di Milano

A.Y. 2022-2023

#### Teaching Professor

“Energy Accounting and Impact Assessment Methods”, SSD: ING/IND-10, code 057905

Lectures, Hands on sessions and Project work development

CFU: 8; Registered students: 62; Course score: 3.3/4

MSc in Energy engineering, Politecnico di Milano

	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket A-Ci  Lectures and Hands on sessions  CFU: 5; Registered students: 263;  BSc in Management engineering, Politecnico di Milano</p>
	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket H-Pi  Lectures and Hands on sessions  CFU: 5; Registered students: 343;  BSc in Management engineering, Politecnico di Milano</p>
A.Y. 2021-2022	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket A-Ci  Lectures and Hands on sessions  CFU: 5; Registered students: 242;  BSc in Management engineering, Politecnico di Milano</p>
	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket H-Pi  Lectures and Hands on sessions  CFU: 5; Registered students: 327;  BSc in Management engineering, Politecnico di Milano</p>
A.Y. 2020-2021	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket A-Ci  Lectures and Hands on sessions  CFU: 5; Registered students: 224; Course score: 3.1/4  BSc in Management engineering, Politecnico di Milano</p>
	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10, code 052453, alphabetical bracket H-Pi  Lectures and Hands on sessions  CFU: 5; Registered students: 312; Course score: 3.1/4  BSc in Management engineering, Politecnico di Milano</p>
A.Y. 2019-2020	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10  Lectures and Hands on sessions  CFU: 5; Registered students: 276; Course score: 2.9/4  BSc in Management engineering, Politecnico di Milano</p>
A.Y. 2018-2019	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10  Lectures and Hands on sessions  CFU: 5; Registered students: 189; Course score: 2.6/4  BSc in Management engineering, Politecnico di Milano</p>
A.Y. 2017-2018	<p><b>Teaching Professor</b>  “Fisica Tecnica”, SSD: ING/IND-10  Lectures and Hands on sessions</p>

- CFU: 5; Registered students: 176; Course score: 3.1/4  
BSc in Informatic engineering, Politecnico di Milano
- A.Y. 2016-2017 **Teaching Assistant**  
“Fisica Tecnica”, Prof. Fabio Inzoli, SSD: ING/IND-10, CFU: 10  
Hands on sessions  
BSc in Energy engineering, Politecnico di Milano
- A.Ys. 2015-2020 **Teaching Assistant (for 5 academic years)**  
“Advanced Thermodynamics and Thermoconomics”, Prof. Emanuela Colombo, SSD: ING/IND-10, CFU: 10  
Hands on sessions  
MSc in Energy engineering, Politecnico di Milano
- A.Y. 2014-2015 **Teaching Assistant**  
“Energetica Generale”, Prof. Emanuela Colombo, SSD: ING/IND-10, CFU: 10  
Hands on sessions  
MSc in Energy engineering, Politecnico di Milano
- A.Ys. 2012 – 2014 **Tutor (2 academic years)**  
“Fondamenti di Energetica”, Prof. Riccardo Mereu, SSD: ING/IND-10  
BSc in Energy engineering, Politecnico di Milano  
Course: “Ingegneria e Cooperazione per lo Sviluppo”, Prof. Emanuela Colombo, SSD: ING/IND-10, MSc in Energy engineering, Politecnico di Milano

## 5.2. PHD COURSES

- A.Y. 2024-2025 **Co-teacher**  
“Advanced Models and Methods for Life Cycle Assessment (LCA)”, CFU: 5  
PhD in Energy and Nuclear Technology Science (STEN), PhD in Environmental and Infrastructure Engineering (EIE)  
Lectures and Hands on sessions
- A.Ys. 2017-2021 - Today **Member of the Teaching Staff (6 academic years)**  
“Resource Planning and Management within Sustainable Development”, Prof. Emanuela Colombo, PhD in Energy and Nuclear Technology Science (STEN)  
Lectures and Hands on sessions  
Module: “*The Global Energy Challenge and the Relevance of Energy Accounting*”

## 5.3. MASTER COURSES

- A.Y. 2021-2022 **Sustainability assessment: theory, methods, case studies (Enel Green Power)**  
Lecture and hands on (2 days, 6 hours of lectures/hands on)  
Master “*Strategic and Innovative O&M Management - Enel Green Power and Global Thermal Generation*”, module 1: “*Energy Transition*”  
Department of Energy – Politecnico di Milano
- A.Y. 2021-2022 **Global Energy Challenges. Energy System Modelling and LCA perspective as a tool to tackle the transition**  
Lecture and hands on, with project work (9 hours)

- Master “*Energy Innovation – ENI and Politecnico di Milano*”  
Department of Energy – Politecnico di Milano
- A.Y. 2020-2021 **Economic and Environmental Impact assessment: theory and methods**  
Lecture and hands on within a master module (2 days, 6 hours of lectures/hands on)  
Second level specializing master “*RIDEF 2.0 XVI edizione*”  
Department of Energy – Politecnico di Milano
- A.Y. 2020-2021 **Computational structure of LCA in a cross-sectorial environment**  
Lecture and hands on within a master module (2 days, 12 hours of lectures/hands on)  
Second level specializing master “*Smart Grids*”, module “*Energy Outlook*”  
Department of Energy – Politecnico di Milano
- A.Y. 2020-2021 **Sustainability assessment: theory, methods, case studies**  
Lecture and hands on (2 days, 6 hours of lectures/hands on)  
Master “*Strategic and Innovative O&M Management - Enel Green Power and Global Thermal Generation*”, module 1: “*Energy Transition*”  
Department of Energy – Politecnico di Milano
- A.Y. 2019-2020 **Life Cycle Assessment (LCA) applications for Energy and Development**  
Lecture and hands on, with project work (2 days)  
Master “*Energy Innovation – ENI and Politecnico di Milano*”  
Department of Energy – Politecnico di Milano
- A.Y. 2018-2019 **Scientific Coordinator of a Master module**  
Responsibility of the Master “*Strategies and Innovative O&M Management - Enel Green Power and Global Thermal Generation*”, module 1: “*Energy Outlook for Electricity production*”  
Department of Energy – Politecnico di Milano
- A.Y. 2018-2019 **Energy world: overview and trends**  
Lecture and hands on (2 days)  
Master “*Strategies and Innovative O&M Management - Enel Green Power and Global Thermal Generation*”, module 1: “*Energy Outlook for Electricity production*”  
Department of Energy – Politecnico di Milano
- A.Y. 2018-2019 **Economic and Environmental Impact assessment: theory and methods**  
Lecture (4 hours)  
Master RIDEF 2.0 XV edizione - Modulo 2 “*Cambiamenti climatici, limiti fisici per il pianeta e sostenibilità forte*”  
Department of Energy – Politecnico di Milano
- A.Y. 2018-2019 **An LCA perspective on energy and productive sectors**  
Lecture and hands on (2 days)  
Master “*Energy Innovation – ENI and Politecnico di Milano*”  
Department of Energy – Politecnico di Milano

#### 5.4. OTHER LECTURES, SEMINARS

- 2025 **Quantitative Impact Assessment of structural changes and policies at national scale: methods, models and case studies**  
Scuola Estiva: Fisica Tecnica per la sostenibilità – Metodi e Modelli  
Certosa di Pontignano (SI), 31 agosto - 5 settembre 2025.
- 2024 **Input-Output analysis and modelling with MARIO**  
Lecture (8 hours) at the International School of Input-Output Analysis (ISIOA)  
International Input-Output Association congress, July, 2024, Santiago, Chile
- A.Y. 2022-2023 **Impact Assessment and LCA**  
Lecture (about 10 lectures of 2 hours each during the A.Y.)  
Series of lectures in the programme “*Technology of future - Le nuove tendenze dei mercati dell’energia e la transizione energetica*”  
Department of Energy – Politecnico di Milano
- Jul 15<sup>th</sup> 2022 **Sustainability: Constraints and opportunities in the Energy Transition**  
Lecture for the Module “Energy within Sustainable Development”, in the Massive Open Online Course (MOOC): “Modelling the Energy Transition: the revolution of open-source software”.  
[https://www.pok.polimi.it/courses/course-v1:Polimi+MET101+2022\\_M11/about](https://www.pok.polimi.it/courses/course-v1:Polimi+MET101+2022_M11/about)
- May 25<sup>th</sup>, 2021 **Energy and Economic Growth (EEG) webinar series: Energy Modelling for Better Policymaking**  
Virtual roundtable discussion (1 hour) on energy systems modelling ([link](#)).  
Organized by *Oxford Policy Management* (OPM)
- Jun 26<sup>th</sup>, 2019 **Introduction to Economic and Environmental Impact Accounting (Enel Foundation)**  
Lecture (2 hours)  
Open Africa Power education venture – Enel Foundation, 2018  
Department of Energy – Politecnico di Milano
- Jan 28<sup>th</sup> - 29<sup>th</sup>, 2019 **Introduction to Environmental and Economic Impact Accounting (FEEM)**  
Lecture and hands on (2 days)  
Lecture and project work for the Joint workshop by Politecnico di Milano and FEEM in the Energy Modelling Platform for Africa (EMP-A)  
University of Cape Town, New Engineering Building, South Africa
- Oct 10<sup>th</sup> - Nov 7<sup>th</sup>, 2018 **Energy resources and Environmental impact accounting methods for energy and productive system analysis (SAIPEM)**  
Lecture and hands on (4 days)  
Short Course, High Value Service Division, SAIPEM, San Donato Milanese (Milan)
- Dec 18<sup>th</sup>, 2017 **Il settore energetico: fabbisogni, problemi emergenti e scenari di sviluppo (IKAROS)**  
Seminar (3 hours)  
IKAROS foundation – school of professional development, Largo Don Minzoni 8, Buccinasco, Milan
- Nov 11<sup>th</sup>, 2015 **Strumenti per la valutazione di sistemi energetici complessi a grande scala**  
Seminar (3 hours)

- Invited lecturer from Prof. Mauro Reini (reini@units.it), Università degli Studi di Trieste, Piazzale Europa, 1, 34127 Trieste
- Nov 5<sup>th</sup>, 2015      **Introduction to Industrial Ecology**  
Lecture (4 hours)  
TriNex European Project (ref.: 544397-TEMPUS-1-2013-1-IT-TEMPUS-JPHES).  
Department of Energy – Politecnico di Milano
- May 2<sup>nd</sup>, 2015      **Energy, economy and policy (Innovative Teaching program, Politecnico di Milano)**  
Recorded lectures  
Massive On-line Course (MOOC): AspEnergy101 – The strange paradox of the world energy question (<https://www.pok.polimi.it/courses/>).  
Department of Energy – Politecnico di Milano

### 5.5. PHD TEACHING BOARD MEMBERSHIP

- A.Y. 2023-2024 - Today      Member of the Teaching Board of the PhD “**Science, Technology and Policy for Sustainable Change**” (STEP-Change) DOT22MY7EB, Politecnico di Milano.  
Dean of the PhD track: Prof. Andrea Castelletti

### 5.6. MSc, PHD SUPERVISION

- Jan 2017 – Present      **Permanent member of the Graduation Commission in Energy Engineering**, and supervisor of 45 MSc theses (see list below) in Energy Engineering at Politecnico di Milano.
- Oct 2024 – Present      **Supervisor of Debora Ghezzi**  
PhD STEN program  
Research focused on development and application of integrated energy-economy systems models.
- Oct 2024 – Present      **Supervisor of Valeria Baiocco**  
PhD STEP-Change program  
Research focused on development and application of energy systems models focused on uncertainty management.
- Nov 2022 – Present      **Supervisor of Anna Vinciguerra**  
PhD DM 117 Public Administration (funded by PNRR)  
Research focused on development and application of integrated energy-economy models. In partnership with IRPET (Tuscany, Italy)
- 2018 – 2022      **Supervisor of Roberto Vaccaro**  
PhD Executive (4 years program) from EURAC research (Bozen, Südtirol)  
Thesis title: “Methods for assessing energy-economic impacts of low carbon energy transitions in regional economies”
- 2018 – 2021      **Supervisor of Roque Gustavo Stagnitta**  
Joint PhD program with Rosario National University (Rosario, Santa Fe, Argentina)  
Thesis title: “A Complementary Approach to Traditional Energy Balances for Assessing Energy Efficiency Measures in Final Uses”
- Dec 2011 – Dec 2016      Co-supervision of 15 MSc theses in Energy, Chemical and Environmental Engineering

### List of MSc thesis supervised:

- Nabeel M, *Assesing the potential of hydrogen as a sustainable energy source for final demand sectors: current Global & European state and future Irish prospects*, 2022, Session II
- Mulinari N, *BESS based on SecondLife Ev batteries for low inertia Grid Support: application and optimization in a real case study*, 2022, Session II
- Mainardi E, *Investigating Interconnectedness in Europe's Energy Transition: An Input-Output Approach*, 2022, Session II
- Sala F, *Modelling of an urban quarter to identify possible decarbonization pathways*, 2022, Session II
- Di Betta P, *Development of Rural Load Archetypes based on Energy Sufficiency for Improved off-grid Energy Planning in Bolivia*, 2022, Session II
- Motta G, *Creation of a pan-African energy planning model for development of long-term strategies*, 2021, Session III
- Schiavoni F, *Non-linear phenomena in energy systems modelling: the example of spillage in hydropower reservoir systems*, 2021, Session III
- Gotti F, *Critical raw materials for wind and solar PV energy applications: state of the art, future opportunities and criticalities*, 2021, Session II
- Cappelli M, *State of the art and decarbonization options for glass industry: the case of Bormioli Pharma*, 2021, Session II
- Guerrieri G, *Assessing economic viability of battery electric vehicle integration in residential context*
- Arlango E, *Technical, environmental and economic assessment of different decarbonization strategies towards low-carbon private transport sector*, 2021, Session II
- Simonotti M, Rovellini G, *Modelling consumption-based carbon allocation mechanism at individual level via System Dynamics*, 2021, Session II
- Piccioni L, *On-grid and off-grid demand evolution for geospatial enhanced energy planning: Kenya case study*, 2021, Session I
- Yazdanpanahi P, *Introducing multi-stage and stochastic approach within household energy re-qualification model*, 2021, Session I
- Cervera Montes R, *Introducing multi-stage and stochastic approach within household energy re-qualification model*, 2021, Session I
- Brecciaroli A, *Applying a consumption-based carbon allocation mechanism rooted on Life Cycle Thinking to the Italian vehicle fleet*, 2020, Session IV
- Tankeu Tagni P, *Energy planning and urbanisation: A review of the socio-economic dynamics for a more inclusive energy planning process*, 2020, Session IV
- Diolaiti M, *Comparing two life cycle approaches for assessing impact of city district refurbishment: bottom-up versus top-down LCA analyses*, 2020, Session IV
- El Yaziji I, *Analysis of future energy scenarios for Mozambique based on an integrated energy-economy system optimization model*, 2020, Session IV
- Bruno G, *National Electrification Policies and Sustainable Development Goals: Tanzania Case Study*, 2020, Session II
- Nahas Y, *Enterprise Sustainability Assessment: a review of the literature and an analysis of twenty-five firm sustainability reports*, 2020, Session I
- Lagotana M, *Development and application of a Waste Supply-Use model: assessing the impact of Circular Economy interventions in Italy*, 2019, Session IV

- Cornelli A, Costa A, *Assessing Impact of Global Energy Transition: a World Trade Model Approach*, 2019, Session IV
- Tahavori M A, *Integration of Energy and Economic Models Based On The Dynamic Supply And Use Framework*, 2019, Session III
- Riva C, *Life Cycle Analysis of a PV-driven heat pump system for residential applications*, 2019, Session II
- Di Leo G, *Comprehensive Impact Assessment of Road Transport Sector Transition Scenarios: Application to Italy*, 2019, Session II
- Barbieri A, *Integrating hydrological constraints for hydropower in energy models - The case study of the Zambezi River Basin in the Southern Africa Power Pool*, 2019, Session II
- Nucifora Y, *Environmental and socio-economic impact of electricity production technologies: A regional Input-Output analysis*, 2019, Session I
- Gandolfo M, *Vehicle consumption detail in modeling the integration between road transport and energy systems: a literature review and further improvements*, 2019, Session I
- Della Bella S, *Materials required for a transition to a low-carbon economy: potential effects of the recycling of green technologies on the global demand of critical materials*, 2018, Session IV
- Magni C, Locatelli S, *Modelling thermal energy demand profiles in the Italian residential sector for different nZEB penetration scenarios*, 2018, Session III
- Brambilla di Civesio A, Buratti D, *Analysis of urban metabolism and policy assessment: building a Multiregional Input-Output model*, 2018, Session III
- Romeo G A, *Assessing future carbon emissions through energy modelling: the relevance of background input data*, 2018, Session II
- Grecchi M, *Integrating energy and economy models based on a Dynamic Input-Output Framework: development of Dynamic Rectangular-Choice-of-Technology model and application*, 2018, Session II
- Sanchez Escudero A, *Modelling and impact assessment of country-wide energy efficiency strategies: the case of Spain*, 2018, Session II
- Milani T, *Study of the electricity-development nexus integrating System Dynamics and Input Output Analysis: case of the Republic of Congo*, 2018, Session II
- Pistacchi R, *Development of a dynamic simulation model for energy policies impact evaluation and resource management in the agro-productive sector*, 2017, Session III
- Golinucci N, *Fighting carbon leakage: assessing the effectiveness of Production- and Consumption-based CO2 emissions policies based on the World Trade Model*, 2017, Session III
- Santolini S, *Quantitative Assessment of the Impact of Community Projects in Developing Countries*, 2017, Session III
- Inverni R, *A soft-link methodology to merge Top-down and Bottom-up approaches in energy modelling*, 2017, Session III
- Piccinini A, *Beyond Well-to-Wheels analysis: assessing the full supply chain impact of Fuel Cell Electric Vehicles (FCEV) in a future automotive scenario*, 2017, Session I
- Palombelli A, *Development of functionalities for improved storage modelling in OSeMOSYS*, 2017, Session I
- Lombo Moreno C A, *Economic and Environmental Impact Assessment of Colombian GHG Abatement Policies*, 2017, Session I
- Moretti C, *Review of the allocation procedures in life cycle assessment: application to the European petroleum refinery benchmark*, 2016, Session II
- Ambrosetti F, Bruschera C L, *Analisi di ciclo di vita di uno stack di celle a combustibile per applicazione automobilistica*, 2016, Session II

## 6. RESEARCH ACTIVITY

### 6.1. RESEARCH FIELD DESCRIPTION

The Candidate currently serves as Associate Professor and participate to the coordination of the research activities of the *Sustainable Energy System Analysis and Modelling group* (SESAM) at the Department of Energy, Politecnico di Milano. From 2012 to 2014 as PhD candidate, from 2015 to 2016 as Post-Doctoral researcher, from 2017 to 2019 as Assistant Professor (RTD-a), from 2020 to Nov 2022 as Assistant Professor with tenure track (RTD-b), and from Nov 2022 on as Associate Professor.

The research activities of the Candidate stem from the MSc thesis, deepening the Advanced Exergy-based methods for system analysis and Life Cycle Assessment methods and models. In particular, the research is focused on the development of integrated and multi-scale numerical models capable to define future development scenarios at the nation-wide scale and by assessing the related Life Cycle impacts by including all the industrial sectors of the analyzed country (or clusters of countries). More specifically, the research assumes the original Leontief's Input-Output meso-economic model as the preferred computational structure, extending and integrating it by means of simulation/optimization models of the national energy systems and detailed engineering models of other processes, to enable a detailed technological characterization. The research is multi-disciplinary, and its ultimate purpose is to support the definition of effective energy and environmental policies for the Energy Transition, by defining scientifically-grounded quantitative models at different scales, capturing the overall impact of the prospective policies into a set of quantitative energy, environmental and economic indicators, such as: primary energy requirements, pollutants and greenhouse gases emissions, resources use (e.g. virtual water, land footprint), and economic effects like the change in Gross Domestic Product.

The first research area concerns the development of models for both small-scale energy systems, ranging from energy conversion systems [J1, J9, J12], desalination plants [J24], innovative integrated energy systems [J27, J31, J33, J38], processes of the Oil&Gas industry [J8, J21]. Such systems are then analyzed by means of Exergy Analysis, Thermo-economic analysis and Life Cycle Assessment techniques [journal articles: J2, J3, J4, J6, J14]. Theoretical advances in the field of advanced exergy-based methods, especially focused on Life Cycle Assessment and Embodied Exergy methodologies (e.g. Cumulative Exergy Consumption, Extended Exergy Analysis, etc.) [J2, J10] are accompanied by practical applications to different case studies [J5, J12, J21, J36]. Thermo-economic analysis methods for cost accounting and malfunction diagnosis purposes have also been applied [J16], and theoretical developments proposed [J14]. Conceptual advances in the LCA field have proposed [J29, J13].

The second research area is related to the development and application of energy systems models for a variety of economy-wide sectors, either based on optimization or simulation techniques. Models of national and international transport vehicles sectors have developed, including fuels production and powertrains operation [J7, J19]. Lumped-parameters thermodynamic models are developed to simulate the operation of building sectors [J23, J32, J40]. Finally, operational and planning models of regional and national power systems have developed based on different modelling platforms [J20, J22, J30, J37], also proposing some conceptual advances in the field [J28, J35, J39].

The third and last research area is related to the development and application of empirical Input-Output models for assessing impact of structural changes at country-wide level, proposing both conceptual developments [J10, J11, J17] and applications [J25, J26, J34]. The research focuses in developing methods for linking Input-Output

models with the previously mentioned thermodynamic and energy systems models [J18, J19, J21, J22, J30, J37, J41]. Such linking approaches are identified as multi-layer modelling frameworks and are aimed at supporting the assessment and the definition of scientifically grounded energy and environmental nation-wide policies.

Notably, the development of integrated models based on Input-Output analysis has been performed and extensively analyzed in a scientific monography [B1].

The research path drawn by the Candidate from 2012 to present benefits from durable and profitable cooperation with other research groups at both national and international level (see paragraph 6.2), from scientific responsibility of a number of national and international research projects (see paragraphs 6.3 and **Error! Reference source not found.**), from the activity of lecturer in MSc and BSc courses (all part of the scientific sector 09/C2, ING-IND10), from the membership to International Journal Editorial Boards (paragraph 7.2). The research carried out these years has led to publications in International Journals, Proceedings of International and National Congresses, a scientific monography (paragraph 7.1) and has led to the foundation of a Spin-Off company (paragraph 8.1).

## 6.2. NATIONAL / INTERNATIONAL RESEARCH COLLABORATIONS

- |                |  |
|----------------|--|
| 2012 – Ongoing | Collaboration and direction of the <b>Sustainable Energy Systems Analysis and Modelling (SESAM)</b> group, Department of Energy, Politecnico di Milano, Via Lambruschini 4, Milan (Italy)  |
| 2021 – Ongoing | Collaboration with <b>Istituto Regionale Programmazione Economica della Toscana (IRPET)</b> , Florence, Italy<br>Contacts: Dr. Leonardo Ghezzi ( <a href="mailto:leonardo.ghezzi@irpet.it">leonardo.ghezzi@irpet.it</a> ), Dr. Renato Paniccia ( <a href="mailto:renato.paniccia@irpet.it">renato.paniccia@irpet.it</a> ).<br>Research contribution: collaboration finalized to the preparation of two PRIN proposals, and joint partnership in the project “Greening the Transition” funded by Ernst & Young (EY) |
| 2021 – Ongoing | Collaboration with Dipartimento “Economia e Diritto” of the <b>Università di Macerata</b> , Macerata, Italy<br>Contact: Prof. Claudio Socci ( <a href="mailto:claudio.socci@unimc.it">claudio.socci@unimc.it</a> )<br>Research contribution: collaboration finalized to the preparation of two PRIN proposals  |
| 2021 – Ongoing | Collaboration with Dipartimento “Scienze per l’Economia e l’Impresa” of the <b>Università di Firenze</b> , Florence, Italy<br>Contact: Prof. Rossella Bardazzi ( <a href="mailto:rossella.bardazzi@unifi.it">rossella.bardazzi@unifi.it</a> )<br>Research contribution: collaboration finalized to the preparation of two PRIN proposals   |
| 2018 – Ongoing | Collaboration with <b>Calvin College</b> , Grand Rapids, USA<br>Contact: Dr. Matthew K. Heun ( <a href="mailto:mkh2@calvin.edu">mkh2@calvin.edu</a> )<br>Research contribution: collaboration to the activities of the Exergy Economics group  |
| 2018 – Ongoing | Collaboration with <b>Instituto Tecnológico y de Estudios Superiores de Monterrey</b> , Nuevo León, Mexico   |

- Contact: Dr. Zeus Guevara ([zshrzmgv@gmail.com](mailto:zshrzmgv@gmail.com))  
 Research contribution: collaboration to the activities of the Exergy Economics group
- 2017 – Ongoing  
 Collaboration with **EURAC Research (Renewable Energy Institute)**, Bolzano, Italy  
 Contact: Dr. Roberto Vaccaro ([roberto.vaccaro@eurac.edu](mailto:roberto.vaccaro@eurac.edu))  
 Research contribution: starting of a joint Executive PhD, and preparation of joint H2020 Marie Curie call (H2020-MSCA-ITN-2018)
- 2016 – Ongoing  
 Collaboration with the **International Energy Agency (IEA)**, Paris, France  
 Supervisors: Dr. Laura Cozzi ([Laura.COZZI@iea.org](mailto:Laura.COZZI@iea.org))  
 Research contribution: regularly published in World Energy Outlook reports
- 2018 – 2020  
 Senior Researcher in **Fondazione Eni Enrico Mattei (FEEM)**  
 Contacts: Dr. Paolo Carnevale ([Paolo.Carnevale@eni.com](mailto:Paolo.Carnevale@eni.com))  
 Role and Activities: enrolled as Associate Researcher in the program: “Africa Research, Empowerment, Partnership (Africa-REP)”, coordinated by Prof. Emanuela Colombo, to support policy development in the African context by developing integrated modelling frameworks based on energy optimization models, supply chain engineering models, Input-Output models.
- 2018 – 2019  
 Collaboration with **Istituto per le Tecnologie della Costruzione, Consiglio Nazionale delle Ricerche (ITC-CNR)**  
 Contacts: Dr. Ludovico Danza ([danza@itc.cnr.it](mailto:danza@itc.cnr.it)), Dr. Lorenzo Belussi ([belussi@itc.cnr.it](mailto:belussi@itc.cnr.it))  
 Research contribution: developing detailed thermodynamic models for the Italian building stock and their integration with national power systems models.
- 2018 – 2021  
 Collaboration with **Copernicus Institute of Sustainable Development, Utrecht University**, Utrecht, Netherlands  
 Contact: Dr. Elena Fumagalli ([e.m.fumagalli@uu.nl](mailto:e.m.fumagalli@uu.nl))  
 Research contribution: development of integrated energy-economy models for assessing rural electrification impact
- 2016 – 2018  
 Collaboration with the **Joint Research Centre (JRC)**, Ispra, Italy  
 Contact: Dr. Alberto Moro ([Alberto.MORO@ec.europa.eu](mailto:Alberto.MORO@ec.europa.eu))  
 Research contribution: methodology improvements of the European Commission Well to Wheels model
- 2015 – 2019  
 Collaboration with **Group on Advanced Separation Processes & GAS Processing (GASP)**  
 Department of Chemistry, Politecnico di Milano  
 Contact: Prof. Laura Pellegrini ([laura.pellegrini@polimi.it](mailto:laura.pellegrini@polimi.it))  
 Research contribution: application of exergy-based methods to standard and innovative acidic gas removal systems in LNG production
- May – Dec 2014  
 Collaboration with the **Center for Automotive Research (CAR)**  
 The Ohio State University, 930 Kinnear Road, Columbus, Ohio  
 Contact: Dr. Matteo Muratori ([muratori.2@osu.edu](mailto:muratori.2@osu.edu))  
 Research contribution: application of Well to Wheels methods for the analysis of different fuel pathways and powertrains in different World regions.

Jan – Apr 2014      Visiting Researcher at **Centre for Energy Resources and Consumption (CIRCE)**  
University of Zaragoza, Campus Río Ebro. Mariano E. Gómez 15, Zaragoza (Spain)  
Contact: Prof. Antonio Valero ([valero@unizar.es](mailto:valero@unizar.es))  
Research contribution: development of Hybrid Input-Output methodology to quantify  
the resources embodied in human labor

### 6.3. RESPONSIBILITY OF STUDIES ASSIGNED BY QUALIFIED PUBLIC OR PRIVATE INSTITUTIONS

Oct 2025 – Dec 2026      **Valutazione di impatto ambientale: impianti di produzione di biometano e small modular reactors (smr) (Edison)**  
Budget: 82,000.00 €; Duration: 18 months  
Client: Edison S.p.A.  
Supervisor: Matteo V. Rocco (Politecnico di Milano)  
Activities: developing an LCA model to assess the environmental impact of Biomethane and Small Modular Reactors technologies.

Apr 2024 – Giu 2025      **Valutazione di impatto ambientale di progetti energetici: sviluppo modellistico e applicazioni pratiche (Edison)**  
Budget: 52,000.00 €; Duration: 14 months  
Client: Edison S.p.A.  
Supervisor: Matteo V. Rocco (Politecnico di Milano)  
Activities: developing an LCA model to assess the environmental impact of Carbon Capture and Storage and Wind projects.

Jan – May 2023      **Life Cycle Assessment (LCA) della filiera small scale liquefied natural gas per il settore dei trasporti (Edison)**  
Budget: 135,000.00 €; Duration: 5 months  
Client: Edison S.p.A.  
Supervisor: Matteo V. Rocco (Politecnico di Milano)  
Activities: developing an LCA model to assess the environmental impact of the Small Scale Liquefied Natural Gas (SSLNG) in the Italian context, adopted to fuel specific technologies in the transport sector.

Oct 2022 – Jan 2023      **Supporto alla valutazione dei progetti Eni di accesso all'energia (Eni)**  
Budget: 25,000.00 €; Duration: 4 months  
Client: Eni S.p.A.  
Supervisor: Matteo V. Rocco (Politecnico di Milano)  
Activities: definition of quantitative indicators to assess the impact of activities and energy access projects of Eni in developing contexts.

Mar – May 2022      **Re-purposing impact assessment of the Trecate Oil Treatment Center – update of scenarios and results (Eni)**  
Budget: 18,270.00 €; Duration: 2 months  
Client: Eni S.p.A.  
Supervisor: Dr. Matteo V. Rocco (Politecnico di Milano)  
Activities: update of scenarios and base data of the project “Re-purposing impact assessment of the Trecate Oil Treatment Center”

- Nov – Dec 2021      **Impact assessment of wave-energy power generation supply chain in Italy (Eni)**  
 Budget: 25,300.00 €; Duration: 2 months  
 Client: Eni S.p.A.  
 Supervisor: Dr. Matteo V. Rocco (Politecnico di Milano)  
 Activities: follow-up of the Insider project (Eni). Application of the INSIDER model platform for assessing environmental, social and economic impact of the supply chain of wave-energy power generation systems
- Jun – Jul 2021      **Re-purposing impact assessment of the Trecate Oil Treatment Center (Eni)**  
 Budget: 21,120.00 €; Duration: 2 months  
 Client: Eni S.p.A.  
 Supervisor: Dr. Matteo V. Rocco (Politecnico di Milano)  
 Activities: follow-up of the Insider project (Eni). Application of the INSIDER model platform for assessing environmental, social and economic impact of repurposing of an oil treatment center
- Jan 2019 – Dec 2020      **Modello Integrato di Impatto per Strategie di Decarbonizzazione e di Economia Circolare - INSIDER (Eni)**  
 Budget: 120,000 €; Duration: 24 months  
 Client: Eni S.p.A.  
 Supervisor: Dr. Matteo V. Rocco (Politecnico di Milano)  
 Activities: development and application of an Input-Output model for the assessment of the nation-wide economic and environmental impact of decarbonization and circular economy strategies of Eni.
- Mar – Jul 2018      **Application of Advanced Exergy Methods for the analysis of Energy Systems (METEX, Eni)**  
 Budget: 19,000 €; Duration: 3 months  
 Client: Eni S.p.A.  
 Supervisor: Dr. Matteo V. Rocco (Politecnico di Milano)  
 Activities: surveying of advanced exergy-based methods for assessing energy conversion systems performances.
- Feb 2021 – Mar 2022      **Greening the recovery from the COVID-19 emergency (Ernst & Young, EY)**  
 Budget: 300,000.00 \$; Duration: 12 months  
 Supervisor: Prof. Emanuela Colombo (Politecnico di Milano)  
 Partners: Polimi (leader), HEAS (Switzerland), IRPET (Italy)  
 Client: Erns & Young Global Services Limited (EYGS)  
 Activities: conduct a study for assessing future post-pandemy energy transition pathways at global level based on an integrated engineering and macro-economic model. Dr. Rocco contributes as the lead modeler of the team.
- Jan 2020 – Jun 2020      **The new geopolitics of renewable energy: a changing picture of strengths, weaknesses, opportunities and threats (Enel Foundation)**  
 Budget: 100,000.00 €; Duration: 6 months  
 Supervisor: Prof. Emanuela Colombo (Politecnico di Milano)  
 Partners: Polimi (leader), SDA Bocconi School of Management

	<p>Client: Enel Foundation</p> <p>Activities: conduct a study for assessing future demand of rare materials in energy transition, assessing geopolitical implications. Dr. Rocco contributes as the lead modeler of the team.</p>
Sep 2017 – Aug 2019	<p><b>Eni Impact Tool: Modello di valutazione dell’impatto per i progetti di investimento comunitario di ENI: applicazione ai progetti energetici (Eni)</b></p> <p>Budget: 350,000 €; Duration: 24 months</p> <p>Partner: Eni S.p.A.</p> <p>Supervisor: Prof. Emanuela Colombo (Politecnico di Milano)</p> <p>Research contribution: development and application of an impact assessment model for community project in developing countries and application to energy projects.</p>
May – Dec 2012	<p><b>Analisi del ciclo di vita delle principali tecnologie di protezione dei versanti</b></p> <p>Partners: Eng. Claudio Zarotti, PratiArmati s.r.l., via del Cavaliere 18, Opera (MI)</p> <p>Supervisor: Prof. Emanuela Colombo, Dr. Claudio Zarotti (PratiArmati)</p> <p>Research contribution: the application of Thermodynamic-based LCA techniques to account for the primary exergy caused by the construction of standard and innovative of anti-erosion systems</p>
May – Sep 2012	<p><b>Analisi exergetiche come strumenti a supporto delle decisioni nella selezione di alternative impiantistiche (Eni)</b></p> <p>Partner: Eni S.p.A., San Donato Milanese, Milan, Italy</p> <p>Supervisor: Prof. Emanuela Colombo (Politecnico di Milano)</p> <p>Research contribution: application of Exergy Analysis to a crude oil stream, evaluating its Thermodynamic potential and suggesting the best feasible ways to exploit it.</p>

#### 6.4. RESPONSIBILITY OF RESEARCH PROJECTS ASSIGNED BASED ON COMPETITIVE CALLS

Jan 2025 – Ongoing	<p><b>Enhanced understanding of Trade Impacts on Climate, industries, and the Environment (ENTICE, HORIZON-CL5-2024-D1-01)</b></p> <p>Budget: 6,500,000.00 €; Duration: 48 months</p> <p>Partners: consortium of several European scientific institutions</p> <p>Research contribution: Dr. Rocco contributes as leader of various tasks in Workpackages 2 (Data disaggregation), 3 (Integrated models development), for a Polimi budget of 290,000.00 €</p>
Jan 2026 – Ongoing	<p><b>Combustion of Rechargeable Metal Fuels in Fluidized Bed Boilers (CORAL, RFCS-2023-01-RPJ)</b></p> <p>Budget: 4,000,000.00 €; Duration: 48 months</p> <p>Partners: consortium of several European scientific institutions</p> <p>Research contribution: Dr. Rocco contributes to the activities of task T4.5 (Environmental and Social impact modelling and assessment, budget 60,000.00 €)</p>
Oct 2025 – Dec 2025	<p><b>MOST – Osservatorio Sunrise</b></p> <p>Budget: 48,750.00 €; Duration: 3 months</p> <p>Partners: consortium of several Italian scientific institutions</p>

- Research contribution: Dr. Rocco contributes by adding Scope 3 emissions to the already existing database for the impact assessment of Italian transport sector.
- Sep 2023 – Feb 2026 **Multi-sectoral Integrated MOdeling platform for planning national energy transition pathways (MIMO)**  
 Progetto di Ricerca di Rilevante Interesse nazionale (PRIN)  
 Budget: 350,000.00 €; Duration: 24 months  
 Partners: Università degli Studi di Firenze, Università degli Studi di Macerata  
 Research contribution: Dr. Rocco contributes as Principal Investigator (PI)
- Apr 2022 – Sep 2025 **Integrated Assessment Modelling: comprehensive and comprehensible science for sustainable, co-created climate action (IAM-COMPACT, HORIZON-CL5-2021-D1-01-04)**  
 Budget: 5,000,000.00 €; Duration: 36 months  
 Partners: consortium of several European scientific institutions  
 Research contribution: Dr. Rocco contributes as leader of various tasks in Workpackages 4 (Modelling activities) and 6 (Policy analysis and capacity building), for a Polimi budget of 270,000.00 €
- Jan 2022 – Jan 2025 **Fundamental Decarbonisation Through Sufficiency by Lifestyle Changes (FULFILL, H2020-LC-CLA-2018-2019-2020)**  
 Budget: 3,210,085.00 €; Duration: 36 months;  
 Partners: consortium of several European scientific institutions  
 Research contribution: Dr. Rocco contributes as leader of tasks in Workpackage 6 (Impacts from up-scaled lifestyle changes) for a budget of about 80,000.00 € (9.5 person-months)
- Jun – Nov 2022 **Policy Dialogue and Knowledge Management on Low Emission Development Strategies (GIZ)**  
 Budget: 24,000.00 €  
 Funding institution: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).  
 Research contribution: Dr. Rocco is the project scientific leader, organizing teaching and capacity building activities for researchers and PhD students of the University of Tunis (ENIT) focused on energy systems modelling.
- Jan 2019 – Dec 2020 **FIVE of Olympics' FLAG - Framework for Impact eValuation of the Effects of Olympics For Longterm Achievement of (common)Good (Polisocial Award 2019, Politecnico di Milano)**  
 Budget: 50,000 €; Duration: 12 months  
 Partners: consortium of Departments of Politecnico di Milano  
 Project manager and task leader: Dr. Matteo V. Rocco (Politecnico di Milano)  
 Activities: development and application of a model for assessing prospective impact of big sport events.
- Jan 2019 – Dec 2020 **A Study for the integrated development of the region BOAne, MoAmba, NamaacHA, Mozambique (Polisocial Award 2018, Politecnico di Milano)**  
 Budget: 90,000 €; Duration: 12 months  
 Partners: consortium of Departments of Politecnico di Milano  
 Task leader: Dr. Matteo V. Rocco (Politecnico di Milano)

	Activities: development and application of a model for assessing future development scenarios for the energy sector and the economic system of Mozambique.
Feb 2017 – Jan 2018	<p><b>Energy Efficiency Work stream (GIZ)</b>            Budget: 1,000,000 €; Duration: 18 months;            Partners: Africa Europe Energy Partnership (AEEP), Deutsche Gesellschaft für Internationale Zusammenarbeit, GmbH (GIZ)            Scientific coordinator: Prof. Emanuela Colombo (Politecnico di Milano)            Research contribution: Establishment and management of an energy efficiency action group with the objective to contribute to the Africa-EU Energy Partnership 2020 energy efficiency target</p>
May 2014 – Nov 2015	<p><b>Green Entrepreneurship European Project (GIEP), 530611-TEMPUS-1-2012-IT-TEMPUS-JPCR</b>            Budget: 953,000.00 €; Duration: 3 years; Partner countries: Germany, Austria, Egypt.            Scientific coordinator: Prof. Emanuela Colombo (Politecnico di Milano)            Research contribution: definition of scientific curricula for MSc courses in Energy engineering</p>
May 2014 – Nov 2015	<p><b>Sustainable Energy Technologies for Food Utilization (Set4Food), ECHO/ERC/BUD/2014/91006 (EU DG ECHO)</b>            Budget: 1,647,372.00 €; Duration: 18 months; Partners: Cooperazione Internazionale, Fondazione Politecnico di Milano, Politecnico di Milano.            Scientific coordinator: Prof. Emanuela Colombo (Politecnico di Milano)            Research contribution: evaluation of efficiency and environmental impact of energy solutions for food cooking and preservation in camps and informal settlements for refugees and internally displaced persons (IDPs)</p>
May 2014 – Nov 2015	<p><b>Knowledge triangle platform for Water Energy Food Nexus (TriNex), 544397-TEMPUS-1-2013-1-IT-TEMPUS-JPHES</b>            Budget: 978,019.59€; Duration: 36 months; Partner countries: Egypt, France, Germany, Austria.            Scientific coordinator: Prof. Emanuela Colombo (Politecnico di Milano)            Research contribution: member of the team lecturer; training of academic staff of Egypt in a variety of fields, including Thermodynamic analyses and Industrial Ecology</p>

## 7. PUBLICATION ACTIVITY

### 7.1. PUBLICATIONS

BIBLIOMETRIC RANKING:

- Scopus web link: <https://www.scopus.com/authid/detail.uri?authorId=56241631100>
- Bibliometric indicators (checked in 02/02/2026): Published documents **68**; Citations: **1436**; h-index: **22**

- J1. Cassetti G, **Rocco M V**, Colombo E  
*Exergy based methods for economic and risk design optimization of energy systems: application to a gas turbine*  
Energy, 2014;74:269–79, DOI: 10.1016/j.energy.2014.07.043
- J2. **Rocco M V**, Colombo E, Sciubba E  
*Advances in Exergy Analysis: a novel assessment of the Extended Exergy Accounting method*  
Applied Energy, 2014;113:1405–20, DOI:10.1016/j.apenergy.2013.08.080.G
- J3. Colombo E, **Rocco M V**, Toro C, Sciubba E  
*An Exergy-based approach to the joint economic and environmental impact assessment of possible photovoltaic scenarios: a case study at a regional level in Italy*  
Ecological Modelling, 2015:318:64–74, DOI:10.1016/j.ecolmodel.2014.11.006
- J4. **Rocco M V**, Cassetti G, Gardumi F, Colombo E  
*Exergy Life Cycle Assessment of soil erosion remediation technologies: an Italian case study*  
Journal of Cleaner Production, 2016:4:3007–3017, DOI:10.1016/j.jclepro.2015.10.055
- J5. Keshavarzian S, Gardumi F, **Rocco M V**, Colombo E  
*Off-design modeling of Natural Gas Combined Cycle Power Plants: an order reduction by means of Thermo-economic Input–Output analysis*  
Entropy, 2016:18:71, DOI: 10.3390/e18030071
- J6. Orsi F, Muratori M, **Rocco M V**, Colombo E, Rizzoni G  
*A multi-dimensional Well-To-Wheels analysis of passenger vehicles in different regions: primary energy consumption, CO2 emissions, and economic cost*  
Applied Energy, 2016:169:197–209, DOI:10.1016/j.apenergy.2016.02.039
- J7. Baccanelli M, Langè S, **Rocco M V**, Pellegrini L, Colombo E  
*Low temperature techniques for natural gas purification and LNG production: an energy and exergy analysis*  
Applied Energy, 2016:180:546–559, DOI:10.1016/j.apenergy.2016.07.119
- J8. Toro C, **Rocco M V**, Colombo E  
*Exergy and Thermo-economic analyses of central receiver concentrated solar plants using air as heat transfer fluid*  
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- J14. Riva F, **Rocco M V**, Gardumi F, Bonamini G, Colombo E  
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- J15. Keshavarzian S, **Rocco M V**, Colombo E  
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- J16. **Rocco M V**, Forcada Ferrer R J, Colombo E  
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- J18. **Rocco M V**, Casalegno A, Colombo E  
*Modelling road transport technologies in future scenarios: Theoretical comparison and application of Well-to-Wheels and Input-Output analyses*  
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- J20. **Rocco M V**, Langè S, Pigoli L, Colombo E, Pellegrini L A  
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- J23. **Rocco M V**, Golinucci N, Ronco S M, Colombo E  
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- J25. Akrami E, Ameri M, **Rocco M V**  
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- J29. Akrami E, Ameri M, **Rocco M V**, Sanvito F D, Colombo E  
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- J31. Akrami E, Ameri M, **Rocco M V**  
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- J51. Baiocco V, Colombo E, **Rocco M V**  
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- J54. Keppo I, Al Khourdajie A, Gardumi F, ... Ven D-J V D, **Rocco M V**, Zamanipour B  
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- C1. Cassetti G, **Rocco M V**, Colombo E  
*Exergy based methods for economic and environmental design optimization of energy systems*  
In Proceedings of the 26th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2013). Guilin, China, Jul 16-19, 2013
- C2. **Rocco M V**, Toro C  
*Exergy based methods for economic and environmental analysis applied to a 320 mw Combined Cycle Power Plant*  
In Proceedings of the 12th Joint European Thermodynamics Conference, JETC 2013, Eds. M. Pilotelli and G.P. Beretta, ISBN 978-88-89252-22-2, Snoopy, Brescia, Italy, 2013
- C3. Colombo E, **Rocco M V**, Gardumi F, Cassetti G, Barbieri J  
*Exergy as a measure of oil well potential*  
In Proceedings of the 31st UIT National Heat Transfer Conference, Como (Italy), Eds. L. Vitali and P. Gramazio, ISBN 97888-6493-017-6, Poliprint - Politecnico di Milano, Milan, Italy, Jun 25-27, 2013
- C4. **Rocco M V**, Taranto F, Colombo E  
*Energy and Exergy Life Cycle Assessment of different anti-erosion systems*  
In Proceedings of the VII Convegno Scientifico della Rete Italiana LCA: “Life Cycle Assessment e ottimizzazione ambientale: esempi applicativi e sviluppi metodologici”, ISBN 978-88-8286-292-3, ENEA, Roma, Italy, 2013
- C5. Colombo E, **Rocco M V**, Toro C, Sciubba E  
*An exergy-based approach to the joint economic and environmental impact assessment of possible photovoltaic scenarios: a case study at a regional level in Italy*  
In Proceedings of the 27th International conference on Efficiency, cost, optimization, simulation and environmental impact of energy systems (ECOS 2014). ISBN: 9781634391344. Turku, Finland, Jun 15-19, 2014
- C6. Keshavarzian S, Gardumi F, **Rocco M V**, Colombo E  
*An off-design Thermoeconomic Input-Output analysis of a Natural Gas Combined Cycle Power Plant*

In Proceedings the 28th international conference on efficiency, cost, optimization, simulation and environmental impact of energy systems (ECOS 2015). ISBN: 978-2-9555539-0-9. Pau, France, Jun 30 - Jul 3, 2015

- C7. **Rocco M V**, Di Lucchio A, Colombo E  
*Thermoeconomic analysis and design evaluation of a Waste To Energy power plant: an Input-Output approach*  
In Proceedings of the 28th international conference on efficiency, cost, optimization, simulation and environmental impact of energy systems (ECOS 2015). ISBN: 978-2-9555539-0-9. Pau, France, Jun 30 - Jul 3, 2015
- C8. **Rocco M V**, Pavarini C, Colombo E  
*Assessing direct and embodied energy trades among national economies through Input-Output analysis*  
In Proceedings of the 29th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2016). ISBN: 978-961-6980-15-9, University of Ljubljana, Portotoz, Slovenia, Jun 19-23, 2016
- C9. Catalano A, **Rocco M V**, Toro C, Colombo E, Sciubba E  
*Simulation and comparative Thermoeconomic analysis of Central Receiver Concentrated Solar Plants using air as heat transfer fluid*  
In Proceedings of the 29th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2016). ISBN: 978-961-6980-15-9, University of Ljubljana, Portotoz, Slovenia, Jun 19-23, 2016
- C10. **Rocco M V**  
*Accounting for human labour in LCA: a novel Input-Output approach*  
In Atti del X Convegno della Rete Italiana LCA 2016 Life Cycle Thinking, sostenibilità ed economia circolare, ISBN: 978-88-8286-333-3, Ravenna, Jun 23-24, 2016
- C11. Keshavarzian S, **Rocco M V**, Gardumi F, Colombo E  
*Practical Approaches for the Application of Exergy Cost Theory to Energy Conversion Systems*  
Proceedings of the 4th International Conference on Contemporary Problems of Thermal Engineering (CPOTE 2016), ISBN: 978-83-61506-36-2, Gliwice – Katowice, Poland, Sep 14-16, 2016
- C12. Golinucci N, **Rocco M V**, Colombo E  
*The effectiveness of LCA-based emissions policies against carbon leakage: theory and application*  
In Atti del X Convegno della Rete Italiana LCA 2016 Life Cycle Thinking, sostenibilità ed economia circolare Università degli Studi Roma Tre, Roma, Jun 13-14, 2016
- C13. **Rocco M V**, Rady Y Y, Colombo E  
*Soft-linking Bottom-up energy models with Top-down Input-Output models to assess the environmental impact of future energy scenarios*  
In Proceedings of the 3rd AIGE/IIETA International Conference and 12th AIGE 2018 Conference on Energy Conversion, Management, Recovery, Saving, Storage and Renewable Systems (AIGE 2018), Reggio Calabria – Messina, Jun 14-16, 2018
- C14. Lombardi F, **Rocco M V**, Locatelli S, Magni C, Colombo E, Belussi L, Danza L  
*Bottom-up Lumped-parameters Thermodynamic Modelling of the Italian Residential Building Stock: Assessment of High-resolution Heat Demand Profiles*

In Proceedings of the 4rd AIGE/IIETA International Conference and 13th AIGE 2018 Conference on Energy Conversion, Management, Recovery, Saving, Storage and Renewable Systems (AIGE 2019), Matera, Italy, Jun 13-14, 2018, ISSN: 0040-1846, 2019:63(2-4)

- C15. Sanvito F D, **Rocco M V**, Colombo E  
*Extended cost structure decomposition within exergoeconomics: a revised design evaluation approach*  
Proceedings of the 32th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2019), Wroclaw, Poland, Jun 23-28, 2019, ISBN 978-83-61506-51-5
- C16. Golinucci N, **Rocco M V**, Colombo E  
*Towards an LCA-based market incentive mechanism regulated through blockchain for carbon emissions reduction*  
In Atti del XIV Convegno della Rete Italiana LCA - IX Convegno dell'Associazione Rete Italiana LCA - Cortina d'Ampezzo, 9-11 dicembre 2020
- C17. Golinucci N, Rinaldi L, Tahavori M A, **Rocco M V**, Colombo E  
*Supporting life-cycle conscious decisions in household energy requalification*  
In Atti del X Convegno della Rete Italiana LCA "Innovazione e circolarità: il contributo del Life Cycle Thinking nel Green Deal per la neutralità climatica" Università Mediterranea di Reggio Calabria, Reggio Calabria, Sep 22-24, 2021

#### BOOKS/BOOKS CHAPTERS

- B1. **Rocco M V**  
*The Exergy Cost of goods and services – an Input-Output approach*  
Polimi Springer Brief Series. 2016. DOI: 10.1007/978-3-319-43656-2, eBook ISBN 978-3-319-43656-2, Softcover ISBN 978-3-319-43655-5, Series ISSN 2282-2577.
- B2. **Rocco M V**, Rinaldi L  
*Energy: an Essential Asset for the Development of the African Continent*  
Book chapter in: Territorial Development and Water-Energy-Food Nexus in the Global South, RESEARCH FOR DEVELOPMENT, 2022 ISBN: 978-3-030-96537-2

#### TECHNICAL REPORTS, OTHER PUBLICATIONS

- O1. **Rocco M V**.  
*Who is responsible for pollution embedded in internationally traded goods?*  
Spotlight in Energy and Air Pollution - World Energy Outlook Special Report 2016, OECD/IEA Publication, Paris, France, 2016
- O2. **Rocco M V**, Colombo E  
*Exergy Life Cycle Assessment of a Waste-to-Energy Plant*  
Energy Procedia, 2016:104:562-567, DOI: 10.1016/j.egypro.2016.12.095
- O3. Colombo E, **Rocco M V**, Riva F, Toelzer C, Otieno D, Forcada Ferrer R J  
*The "Energy Efficiency Matrix": An Africa-EU Energy Partnership tool to foster Energy Efficiency in Africa*  
In Proceedings of Renewable Energy Solutions for Africa Annual Conference (RES4AFRICA 2017), Addis Ababa, Ethiopia, Oct 3-4, 2017

- O4. Causone F, **Rocco M V**  
*Sviluppo sostenibile e metabolismo urbano - Verso un modello di analisi inclusivo e quantitativo*  
 In Milano Produttiva - 28° Rapporto della Camera di Commercio di Milano Monza Brianza Lodi, 2018
- O5. Colombo E, **Rocco M V**, Toelzer C, Otieno D  
*Africa-Eu Energy Partnership - Enhancing Energy Efficiency in Africa*  
 AEEP Energy Efficiency Workstream (AEEP-EEWS) Final report, ISBN 9788894122657, Feb 2018
- O6. Montedoro L, Rulli M C, **Rocco M V**, Castelletti A  
*Il Politecnico di Milano porta il Water, Energy and Food Nexus in Mozambico*  
 In Africa e Affari, anno 7, numero 5, May 2019
- O7. Golinucci N, **Rocco M V**, Inzoli F, Colombo E  
*La questione degli Indicatori*  
 Equilibri. Fondazione Eni Enrico Mattei (FEEM), 2019, DOI:
- O8. Golinucci N, **Rocco M V**, Ronco S M, Colombo E  
*Verso meccanismi innovativi di tassazione delle emissioni di CO2: teoria e risultati empirici*  
 Equilibri. Fondazione Eni Enrico Mattei (FEEM), 2019, DOI: 10.1406/95347
- O9. Lombardi F, **Rocco M V**, Locatelli S, Magni C, Colombo E, Belussi L, Danza L  
*Bottom-up Lumped-parameters Thermodynamic Modelling of the Italian Residential Building Stock: Assessment of High-resolution Heat Demand Profiles*  
 Tecnica Italiana – Italian Journal of Engineering Science, 2019:63:349-356, DOI: 10.18280/ti-ijes.632-434
- O10. Conte M, Rinaldi L, Tonini F, Fumagalli M, Lorenzini G, Piras P, Sommariva G G, Rocco M V, Colombo E  
*Investigating the economic and environmental impacts of a technological shift towards hydrogen-based solutions for steel manufacture in high-renewable electricity mix scenarios for Italy*  
 IOP Conf. Series: Earth and Environmental Science, 1106, (2022) 012008, DOI: 0.1088/1755-1315/1106/1/012008

## 7.2. EDITORIAL ACTIVITIES

Sep 2025 – Present	<b>Member of the Editorial Board</b> Discover Energy (Springer Nature, open access) <a href="https://link.springer.com/journal/43937">https://link.springer.com/journal/43937</a> ISSN: 2071-1050; Journal rank: Q1; Impact factor (2022): 3.251				
Jan 2019 – Present	<b>Member of the Editorial Board</b> Sustainability (MDPI, open access) <a href="https://www.mdpi.com/journal/sustainability">https://www.mdpi.com/journal/sustainability</a> ISSN: 2071-1050; Journal rank: Q1; Impact factor (2022): 3.251				
Jan 2018 – Dec 2020	<b>Member of the Academic Editorial Board</b> Journal of Cleaner Production (Elsevier) <a href="https://www.journals.elsevier.com/journal-of-cleaner-production">https://www.journals.elsevier.com/journal-of-cleaner-production</a> ISSN: 0959-6526; Journal rank: Q1; Impact factor (2019): 6.395				
2012 – Present	<b>Reviewer</b> (currently revising 20 manuscript per year on average)				
	<table> <thead> <tr> <th><i>Journal</i></th> <th><i>Editor</i></th> </tr> </thead> <tbody> <tr> <td>Applied Energy</td> <td>Elsevier</td> </tr> </tbody> </table>	<i>Journal</i>	<i>Editor</i>	Applied Energy	Elsevier
<i>Journal</i>	<i>Editor</i>				
Applied Energy	Elsevier				

Journal of Cleaner Production	Elsevier
Energy, the International Journal	Elsevier
Energy Conversion and Management	Elsevier
Applied Thermal Engineering	Elsevier
Environmental Geotechnics	Elsevier
Energy Research & Social Science	Elsevier
<i>Journal</i>	<i>Editor</i>
<hr/>	
Environmental Science and Pollution Research	Elsevier
Energy Strategy Reviews	Elsevier
Journal of Environmental Management	Elsevier
Resources, Conservation & Recycling	Elsevier
Waste Management	Elsevier
Energies	MDPI
Entropy	MDPI
International Journal of Green Energy	Taylor and Francis
Environmental Science and Technology	ACS
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### 7.3. INTERNATIONAL/NATIONAL CONFERENCES

#### CONFERENCE BOARD MEMBER

- Jul 2019                    **Member of International Conference Scientific Board**  
International Conference on Cleaner Production & Sustainability, Hong Kong, China,  
Oct 30 - Nov 2, 2019
- Jul 2013                    **Member of the International Conference Organization Board**  
12th Joint European Thermodynamics Conference Brescia, Italy, July 1-5, 2013

#### CONFERENCE PARTICIPATION AS SPEAKER / PAPER AUTHOR

- 2026
- **Costruire la Transizione Sostenibile in Italia**  
Jan 14-16 2026, Università degli Studi di Firenze, Campus delle Scienze Sociali, Italy
- 2024
- **30<sup>th</sup> International Input-Output Conference & 12<sup>th</sup> Edition of the International School of I-O Analysis**  
(IIOA 2024), July 1–5 2024, Santiago, Chile
  - **65esima Riunione Scientifica Annuale della Società Italiana di Economia– Università di Urbino Carlo Bo**  
(SIE 2024), 24-26 October 2024, Urbino, Italy
- 2023
- **29<sup>th</sup> International Input-Output Conference & 11<sup>th</sup> Edition of the International School of I-O Analysis**  
(IIOA 2023), June 25–30 2023, Alghero, Italy
- 2022
- **28<sup>th</sup> International Input-Output Conference & 10<sup>th</sup> Edition of the International School of I-O Analysis**  
(IIOA 2022), Aug 28 – Sep 3 2020, Kuah, Malaysia
  - **Scientific Computing with Python Conference (SciPy 2022)**, Jul 11 – 17, Austin, Texas (online participation)
  - **40<sup>th</sup> International System Dynamics Conference**, Jul 18-22, Frankfurt, Germany

- **7<sup>th</sup> AIGE/IIETA International Conference, 16<sup>th</sup> AIGE Conference (AIGE 2022)**, Jun 8-9 2022, Reggio Calabria, Italy
  - **XVI Convegno della Rete Italiana LCA, La sostenibilità nel contesto del piano nazionale di ripresa e resilienza: il contributo della Life Cycle Assessment**, Jun 24-25 2022, Palermo, Italy
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- 2021
- **XV Convegno della Rete Italiana LCA, Innovazione e Circolarità – Il contributo del Life Cycle Thinking nel Green Deal per la neutralità climatica**, Jun 22-24 2021, Reggio Calabria, Italy
  - **International Industrial Ecology Day 2021**, Jun 20, 2021, online conference
- 2020
- **XIV Convegno dell'Associazione Rete Italiana di LCA, La sostenibilità della LCA tra sfide globali e competitività delle organizzazioni**, Dec 9-11 2020, Cortina D'Ampezzo, Italy
- 2019
- **27<sup>th</sup> International Input-Output Conference & 9<sup>th</sup> Edition of the International School of I-O Analysis (IIOA 2019)**, Jun 30 – Jul 5 2019, Glasgow, Scotland
  - **32<sup>nd</sup> International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2019)**, Jun 23-28 2019, Wrocław, Poland
  - **13<sup>th</sup> International Conference of the European Society for Ecological Economics**, Jun 18-21 2019, Turku, Finland. Organization of the Special Session: "Advances in understanding the physical structures of economies: materials, energy, and the services they provide"
  - **4<sup>rd</sup> AIGE/IIETA International Conference, 13<sup>th</sup> AIGE Conference 2018 (AIGE 2019)**, Jun 13-14 2019, Matera, Italy
  - **XIII Convegno della Rete Italiana LCA, Il Life Cycle Thinking a supporto delle strategie di mitigazione e adattamento ai cambiamenti climatici**, Jun 13-14 2019, Università degli Studi Roma Tre, Roma, Italy
  - **7<sup>th</sup> IAERE Annual Conference (Italian Association of Environmental and Resources Economists)**, Feb 7-8 2019, Udine, Italy
  - **Energy Modelling Platform for Africa 2019 (EMP-A 2019)**, Jan 30-31 2019, Cape Town, University of Cape Town, South Africa
- 2018
- **3<sup>rd</sup> AIEE Energy Symposium (Associazione Italiana Economisti dell'Energia)**, Dec 10-12 2018, Bocconi University, Milan, Italy
  - **Prima Conferenza Annuale ICESP (Italian Circular Economy Stakeholder Platform)**, Dec 3 2018, Palazzo Madama, Senato della Repubblica, Italy
  - **Energy Modelling Platform for Europe (EMP-E 2018)**, Sep 25-26 2018, European Commission, DG RTD, Brussels
  - **26<sup>th</sup> International Input-Output Conference & 8<sup>th</sup> Edition of the International School of I-O Analysis (IIOA 2018)**, Jun 25-29 2018, Juiz De Fora, Brazil
  - **3<sup>rd</sup> AIGE/IIETA International Conference, 12<sup>th</sup> AIGE Conference 2018 (AIGE 2018)**, Jun 14-16 2018, Reggio Calabria – Messina, Italy
  - **3<sup>rd</sup> International Exergy Economics Workshop**, Instituto Superior Técnico, Universidade de Lisboa, 13-15 May 2018
- 2017

- **25<sup>th</sup> International Input-Output Conference & 7<sup>th</sup> Edition of the International School of I-O Analysis (IIOA 2017)**, Jun 19-23 2017, Atlantic City, New Jersey, USA
- **Renewable Energy Solutions for Africa Annual Conference (RES4AFRICA 2017)**, Addis Ababa, Ethiopia, Oct 3-4 2017
- **SETAC Europe 27th Annual Meeting (SETAC 2017)**, 7-11 May 2017, Brussels, Belgium
- **REEEM Stakeholder Workshop Series: Energy Transition Pathways for the EU**, Oct 5-6 2017, Brussels, Belgium

2016

- **Contemporary Problems of Thermal Engineering (CPOTE 2016)**, 14-16 Sep 2016, Silesian University of Technology, Gliwice, Poland
- **Convegno dell'Associazione Rete Italiana LCA 2016 - Life Cycle Thinking, sostenibilità ed economia circolare**, 23-24 Jun 2016, Università di Bologna, Italy
- **29th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2016)**, 19-23 Jun 2016, Portoroz, Slovenia
- **Applied Energy Symposium and Forum 2016: Low carbon cities & urban energy systems (CUE 2016)**, 13-15 Jun 2016, Jinan, Shandong, China

2015

- **28th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2015)**, Jun 29 - July 3 2015, Pau, France

2014

- **27th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2014)**, 15-19 Jun 2014, Åbo Akademi University, Turku, Finland

2013

- **12th Joint European Thermodynamics Conference (JETC 2013)**, 1-5 Jul 2013, Brescia, Italy
- **26th International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2013)**, Jul 15-19 2013, Guilin, China
- **Convegno dell'Associazione Rete Italiana LCA 2016 - Life Cycle Thinking, sostenibilità ed economia circolare**, 27-28 June 2013, Politecnico di Milano, Italy
- **31st UIT Heat Transfer Conference**, Jun 25-27, 2013, Como, Italy

## 8. TECHNOLOGY TRANSFER

### 8.1. PARTICIPATION IN SPIN-OFF ACTIVITIES

- Dec 2022      Co-founder and scientific advisor of **ENEXTGEN S.R.L.**  
Spin-Off of Politecnico di Milano. Scope of the company's activities:
- Development and application of methods models, and software, in the field of energy modelling, industrial ecology, engineering and energy economics.
  - Consultancy activities in the field of impact assessment of new technologies and technology transition processes.

Milan, 02/02/2026

Matteo Vincenzo Rocco